1	STATE OF NEW HAMPSHIRE
2	SITE EVALUATION COMMITTEE
3	DOCKET NO. 2015-06
4	APPLICATION OF NORTHERN PASS TRANSMISSION, LLC
5	
6	SUPPLEMENTAL PRE-FILED DIRECT TESTIMONY
7	OF STEPHAN T. NIX, ESQ, LLS
8	
9	IN SUPPORT OF
10	COMBINED GROUP CLARKSVILLE-STEWARTSTOWN
11	BRAD AND DARYL THOMPSON ABUTTING INTERVENORS
12	
13	March 21, 2016
14	
15	Q. Please describe in further detail your experience with the design and construction of
16	local roads.
17	A. From approximately 1981 until 1994 I worked as a land surveyor in civil engineering
18	firms. Part of my duties included work as an engineering technician under the supervision of a
19	professional engineer. In that capacity I designed roads, sewer systems, drainage systems and
20	residential and commercial site plan layouts. The work was reviewed and approved by the
21	professional engineer. I would then take the designs through the application and permitting
22	process at the town, state and federal level depending on the project needs. After approval I
23	worked in the field performing pre-construction layout, construction inspection and verification
24	and as-built surveys. I was physically on the construction sites to perform this work. Part of the
25	design and construction stakeout included the survey mapping of the right of way boundary
26	lines.
27	
28	Q. Please explain what you mean by inspection during the construction process.
29	A. Depending on the project, inspections and reporting include verification of horizontal and
30	vertical layout; visual inspection of excavation and fill material; sieve analysis of materials,
31	measurements of depths of gravel, pavements, drainage structure coverages; verification of

drainage and sewer construction type, elevation and installation; photographing and documenting
construction progress; and production of final as-built surveys. In most cases I was required to
certify the as-built plans as a licensed land surveyor.

4

Q. Have you reviewed the plans for the underground portion of the Northern Pass
Transmission Project ("Project") submitted by Northern Pass Transmission and
Eversource Energy (the "Applicants") regarding the proposal for Underground
Transmission Lines ("UGTL") buried in local and state highways? Please explain what
plans you reviewed.

10 A. Yes. I reviewed the plans located at the New Hampshire Site Evaluation Committee

11 ("SEC") website dated 12/16/16 with the heading "Applicant's Response to DOT Request";

12 specifically file <u>https://www.nhsec.nh.gov/projects/2015-06/letter-memos-correspondance/dec-</u>

13 dot-response/2015-06_2016-11-30_dot_maps.pdf. ("Plans" or "NP Plans"). The cover letter

14 dated December 15, 2016 from Thomas B. Getz, Esq., counsel for the Applicant, to the SEC

15 states that "[t]he supplemental responses to data requests addressing the underground portion of

16 the Project comprise the final design packages prepared for the Department of Transportation ..."

17 See <u>https://www.nhsec.nh.gov/projects/2015-06/letter-memos-correspondance/dec-dot-</u>

18 response/2015-06_2016-12-15_ltr_dot_design.pdf. ("Plans"). This language states that the

19 Applicant submitted the Plans as the final design plans that will be used for permitting and

20 construction of the Project.

21

22 Q. What are your initial impressions of the Plans?

A. The NP Plans do not meet the minimum requirements of law given the representations
made by the Applicant that the plans are final design plans the construction of the UGTL in the
public right of way ("r.o.w.").

26

Q. Is the practice of land surveying regulated in New Hampshire? What are thepurposes of the regulation?

A. RSA 310-A:53 – 74 vests the regulation and control of land surveying in the Board of

30 Licensure for Land Surveyor's ("Surveyor's Board"). RSA 310-A:58, grants rulemaking

31 authority to the Surveyor's Board.

RSA 310-A:53,I states "In order to safeguard property and to promote the public welfare, the
practice of land surveying in this state is hereby declared to be subject to regulation in the public
interest." The Surveyor's Board adopted the rules to safeguard property and promote the public
welfare.

6

1

7 RSA 310-A:54,IV defines land surveying as:

8	any service or work, the adequate performance of which involves the
9	application of special knowledge of the principles of mathematics, the related
10	physical and applied sciences and the relevant requirements of law for
11	adequate evidence to the act of measuring and locating lines, angles,
12	elevations, natural and man-made features in the air, on the surface of the
13	earth, within underground workings, and on the beds of bodies of water for
14	the purpose of determining areas and volumes, for the monumenting of
15	property boundaries and for the platting and layout of lands and subdivisions
16	of land, including the topography alignment and grades of streets and for the
17	preparation and perpetuation of maps, record plats, field note records and
18	property descriptions that represent these surveys."

19

The purpose of the regulation of land surveying is the protection of property and to promote the public welfare by properly measuring and property boundaries and the platting and layout of the property boundaries. To protect the rights and welfare of the public, a licensed land surveyor must investigate and identify abutting property titles and boundaries when preparing a Standard Property Survey.

25

26 Q. Does the Surveyor's Board have rules that include definitions?

A. Yes. The Surveyor's Board N.H. Code of Admin. Rules, Lan 302.01(a) states "Plat'
means a plan drawn to scale showing all essential data pertaining to the boundaries and
subdivisions of a tract of land, as determined by survey." The NP Plans meet the definition of
Plats and therefore require all essential data pertaining to the boundaries to be depicted.

What is the significance of the Plans being the final design plans as stated by the 2 0. 3 Applicant in its December 15, 2016 letter? Because the Plans are submitted as the final design plan and are purported to depict the 4 A. r.o.w. lines the Plans meet the definition of a Plat under Lan 302.01(a). The work performed to 5 prepare the Plan meets the definition of "land surveying" under RSA 310-A:54, IV. Therefore, 6 under the law, the Plans must meet the requirements of Lan 100 - 500. 7 8 The Plans depict r.o.w. lines of the public roads. The Plans state that "SURVEY PROVIDED 9 BY BL COMPANIES", See Plan NRTHG001, Survey Notes 1. (The Plan set pages are labeled 10 in the lower right hand corner). 11 12 "Survey Note 5" states: 13 A SURVEY CONTROL BASELINE WAS ESTABLISHED BY BL 14 COMPANIES, UTILIZING A COMBINATION OF GPS AND 15 16 CONVENTIONAL LAND SURVEYING ALONG THE PROJECT CORRIDOR. HORIZONTAL CONTROL WAS TIED INTO THE NEW 17 18 HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAO 83, (ZONE 2800, US SURVEY FOOT). THE ORDER OF ACCURACY OF THE 19 20 CONTROL SURVEY IS SECOND ORDER, CLASS II. RESEARCH WAS CONDUCTED AT MULTIPLE TOWN, COUNTY AND STATE OFFICES 21 22 TO OBTAIN RIGHT-OF-WAY INFORMATION, HIGHWAY LAYOUTS, PROPERTY OWNER INFORMATION, CURRENT DEEDS AND ANY 23 24 FILED PLANS FOR PROPERTIES ALONG THE PROJECT CORRIDOR. ROADWAY RIGHT-OF-WAY LINES HAVE BEEN ESTABLISHED 25 FROM AVAILABLE DOCUMENTS, SUCH AS RECORD LAYOUTS 26 AND HIGHWAY PLANS. AND THE BOUNDARY EVIDENCE 27 RECOVERED AND FIELD SURVEYED ALONG THE PROJECT 28 CORRIDOR. ADJACENT OWNER PROPERTY LINES HAVE BEEN 29 COMPILED AND DEPICTED FROM TAX ASSESSOR INFORMATION, 30 31 RECORDED DEEDS, AND THE SURVEYED FIELD EVIDENCE.

Q. Does Survey Note 5 state that the Applicant's surveyor performed the work necessary to meet the minimum standards?

A. Yes. However the plans do not reflect that the work was actually performed, nor do the
Plans themselves meet the minimum standards of law. The generally accepted practice for land
surveyors in New Hampshire for a road r.o.w. survey is for the surveyor to provide specific
references on the Plan to the documents found during the research phase of the project. The
Plans lack any mention of supporting research, but for the general statement in Survey Note 5.
Simply adding Survey Note 5 does not correct the deficiencies in the Plans themselves.

10

Q. Please explain why the r.o.w. lines shown on the Plans are boundary lines and why that is important in the context of the SEC review of this Application.

13 A. A r.o.w. line is the boundary line between the private land owner and the public's

14 highway r.o.w. See RSA 231:27, Boundary Lines of Town Highways ("Selectmen may

reestablish the boundary lines, limits and locations of any class IV, V or VI highway or any part

thereof which shall have become lost, uncertain, or doubtful,..."). *See also Nute v. Wakefield*,

17 117 N.H. 602 (1977).

18

The Plans depict a major construction project to be located within the boundaries of the public highway r.o.w. The Applicant has made representations that it has the legal right to construct the UGUL in public r.o.w. If the boundaries of the public r.o.w. are incorrectly determined and incorrectly depicted on the Plans by the Applicant's surveyor, there is a high probability that construction work will encroach onto private property.

24

Q. What are the Surveyor's Board requirements for regarding the mapping of public highway r.o.w. lines?

A. As a preliminary matter, the Plans meet the definition of a "Standard Property Survey"
under Lan 503.02(t):

29 "Standard property survey" means a survey of boundary, easements, rights of
30 way and/or leases performed with research, field survey and analysis of all
31 factors affecting and influencing the location of the boundaries, easements,

1	rights-of-way, and leases of record, within or immediately surrounding the
2	tract, parcel or lot.
3	
4	Lan 503.03Survey Requirements states:
5	(e) A standard property survey plat shall show all data required for a complete
6	and accurate description of the land which it delineates.
7	(f) Standard property survey specifications, as outlined in Lan 503.06,
8	Specifications shall apply to locate, monument, plat, determine the area or
9	volumes, and prepare a land parcel description of a tract, parcel or lot of real
10	property or easement. Standard property surveys shall include the location of
11	lines of occupation and any possible encroachments.
12	
13	Lan 503.06 cited in Lan 503.03 defines the proper field procedures to be used in performing a
14	Standard Property Survey. Lan 503.09, Plats, requires:
15	(a) For results of a survey where a plat is prepared, the plat shall identify the
16	tract or parcel and contain enough information so that the boundaries of the
17	parcel of interest can be located with certainty in the future by a competent
18	land surveyor.
19	(b) As appropriate to the purpose of the survey, a survey plat shall contain, but
20	not be limited to, containing the following:
21	(1) The municipality, date, scale, bar scale, and description or purpose of
22	the plan;
23	(2) The name and address of the company or individual which prepared
24	the plat, or both, and the name and seal of the licensed land surveyor;
25	(3) Owner of record with mailing address, assessor's parcel number, and
26	title reference
27	(4) Meridian arrow and origin with the date of observation or reference
28	plat;
29	(5) Vicinity map;
30	(6) Bearing and horizontal distances on all pertinent property lines;
31	(7) Curved boundary lines showing radius, delta, and length;

1	(8) On non-tangent curves, a course and distance of the long chord shall be
2	shown;
3	(9) Irregular boundaries without curves, such as rivers or streams, or with
4	curves which have no definable geometry, shall have sufficient
5	information to mathematically close the plat;
6	(10) Tie lines, when used, shall be noted that they are not property lines;
7	(11) All monuments set or found, including monuments with tie lines on
8	which establishment of the corners of the surveyed premises are
9	dependent;
10	(12) Monuments shall be described as to material, and the relation of the
11	monument to the surveyed lines and/or corner;
12	(13) Lines of possession where they affect the surveyed boundaries;
13	(14) Abutters with title reference and assessor's parcel number;
14	(15) Easement and right-of-way limits, references to easements and
15	encumbrances of record, whether private or public, and evidence of any
16	unwritten interests observed, to the extent that they have a physical effect
17	on the land;
18	(16) Revision dates and purposes;
19	(17) Legend, unless symbols are clearly identified within the plat;
20	(18) Man-made structures pertinent to the purpose of the surveyed project;
21	(19) Plats and data relevant to the survey;
22	(20) Any record evidence of a cemetery or burial ground shall be duly
23	noted on the plat unless such cemetery or burial ground is located on the
24	plat;
25	(21) The area of the subject tract or parcel, expressed in acres, unless the
26	area is less than 2 acres, in which case the area may be expressed in square
27	feet;
28	(22) If a boundary, easement, or right-of-way shown on the tract is an
29	elevation, the referenced datum shall be noted on the plat along with at
30	least one permanent benchmark with reference elevation;

1	(23) All benchmarks shall be adequately described on topographic surveys
2	or boundary surveys when property lines are defined by an elevation to
3	enable it to be recovered at a later date;
4	(24) A certification by the land surveyor stating the method and
5	classification of the survey or the precision and accuracy attained; and
6	(25) If coordinates of positions are shown the following shall also be
7	included:
8	a. The units of reported coordinates;
9	b. The horizontal datum and coordinate system of the horizontal
10	coordinates;
11	c. Vertical datum of the vertical coordinates; and
12	d. Basis of bearings.
13	
14	Q. In this written pre-filed testimony, you have underlined several of the requirements
15	of Lan 503.09(b). Please explain why.
16	A. A review of these plans indicates that they are deficient and do not contain the minimum
17	information required by Lan 503.09(b). Because the Plans are presented to the SEC as the final
18	design plans that meet the definition of a Standard Property Survey, it is appropriate and
19	necessary for the underlined items to be depicted on the plans. Of special concern are the
20	complete lack of bearings and horizontal distances on the r.o.w. lines and/or centerline; tie lines
21	to monuments that are not held as the r.o.w. line; lines of possession; abutter title references and
22	assessor's parcel number; lack of the easement and r.o.w. record document references; lack of
23	reference to plats and data of record; and the lack of the name and seal of the licensed land
24	surveyor that prepared the Plans.
25	
26	Q. You used the term "not held" in your last answer. Please explain this term.
27	A. When a land surveyor performs a field survey they measure the location of the existing
28	monuments (iron pipes, concrete bounds, granite bounds, etc.) that are found in the field. This
29	information is brought back to the office and mathematical calculations performed to determine
30	the relative position of each monument in relation to the other monuments and physical evidence
31	found. The surveyor will then use the deed descriptions and other legal title documents, (i.e.,

road layout information), to compare the relative location of the monuments using the common
law rules of boundary location to determine whether each monument represents the correct
boundary location. If the surveyor determines the monument properly witnesses the boundary,
the monument will be "held." If the evidence indicates that monument does not properly reflect
the boundary, the monument will "not be held." If a monument is found and "not held" the
surveyor will generally add a note on the plan indicating same.

7

8 Q. Does a Standard Property Survey require the seal of the land surveyor who 9 prepared it?

A. Yes. Under Lan 305.03(a) "Upon issuance of a license to an applicant as a licensed land
surveyor, the licensee shall obtain an impression type seal or rubber stamp of the design
specified by these rules. This seal shall bear the licensee's name and number as shown on the
license. This seal and original signature shall be affixed on all final plans and reports of survey
prepared by the licensee." The Plans do not have a seal or name the responsible licensed land
surveyor.

16

Q. Does the SEC have the authority to waive the requirements for Standard Property Surveys?

19

20 A. There are no provisions under the statute or rules allowing the SEC to waive the requirements. Site 301.03(c)(3), Contents of Application, includes the requirement for; 21 22 The location, shown on a map, of property lines, residences, industrial buildings, and other structures and improvements within the site, on abutting 23 24 property with respect to the site, and within 100 feet of the site if such distance extends beyond the boundary of any abutting property; ... 25 26 Id. (underline added). 27 This rule requires that the Applicant provide a map of the property lines. When read in 28 conjunction with RSA 310-A and Lan 503.02(t) the property map supplied is a Standard

29 Property Survey and therefore meet the Surveyor's Board requirements

30

1	Q.	Do	utility companies have the authority to waive the requirements when providing a
2	Stan	dard	Property Survey in an SEC application?
3	A.	No	. There are no provisions in the law for such waiver.
4			
5	Q.	In	the context of approval of an application by a local, state or federal agency are
6	there	e othe	r situations where law requires a Standard Property Survey with the seal of a
7	licen	sed la	and surveyor is required?
8	А.	Yes	s. The following are representative samples of statutory requirements that require a
9	plan	prepa	red and sealed by a licensed land surveyor:
10		•	RSA 356-B:20, I & II Condominium Act; requires seal of land surveyor on
11			the condominium site plans of survey and floor plans.
12		•	RSA 478:1-a,I, Recording of Plats: requires land surveyor seal for the
13			recording of subdivision plat or existing lot line plat for recording the registry
14			of deeds.
15		٠	RSA 674:37, Recording of Plats: requires that subdivision plats submitted to
16			the local planning board for approval and recording shall be sealed by a
17			licensed land surveyor.
18	The	follow	ing are representative samples of N.H. Code of Admin. Rules that require a
19	plan	prepa	red and sealed by a licensed land surveyor:
20		٠	Pesticide Control Board; Pes 1002.07(6)(c), Site Management Area Plan.
21		•	Housing Finance Authority; Hfa 105.08 D, Site Survey for all properties.
22		•	Housing Finance Authority; Hfa 111.02, Construction drawings and design
23			specifications for multi-unit developments.
24		•	Dept. of Env. Services ("DES"); Oil and Remediation Programs,
25			Contaminated Site Management. Env-Or 608.03(a), Activity and Use
26			Restriction plans.
27		٠	DES; Drinking Water Program. Env-Dw 1002.16, Water Supply Land
28			Protection Grant Program plans.
29		٠	DES; Water Quality and Quantity Programs. Env-Wq 403.28(a) Large
30			Groundwater Withdrawals, Water level monitoring location and elevations.

1	•	DES; Water Quality and Quantity Programs. Env-Wq 1003.01, Subdivision
2		and individual sewage disposal system design rules, preparation of plans;
3		seals required.
4	•	DES, Wetlands Programs, Env-Wt 304.09, Criteria and conditions for permits,
5		plans submitted for subdivisions.
6	•	DES, Wetlands Program, Env-Wt 808.11, Compensations Mitigation, Aquatic
7		Resources Compensation Mitigation Fund, survey requirements.
8	•	Land and Community Heritage Investment Authority (RSA 227-M), Criteria,
9		Guidelines, and Procedures, § 18.B.4 p. 25 states:
10		Surveys completed for the purposes of fulfilling the requirements of
11		LCHIP shall meet the following:
12		(a) A New Hampshire licensed surveyor shall perform a standard property
13		survey in accordance with the standards specified in State of New
14		Hampshire Board of Licensure for Land Surveyors Rules, Land 503.03 –
15		Land 503.09.
16		
17	Q. D	oes the N.H. Department of Transportation ("NHDOT") require boundary
18	survey p	lans meeting the requirements of Lan 100 – 500 by a licensed land
19	surveyor	?
20	A. Y	es. The following are references to manuals adopted by NHDOT regarding the
21	requireme	ent for a Standard Property Survey:
22	•	Dept. of Transportation, Right of Way Bureau, Right of Way Manual,
23		Right-of-Way Registry Plans p. 23 states:
24		Once the purchase plan has been verified the final Right-of-Way Registry
25		Plan can be produced. The registry plans show only the necessary detail
26		required to accurately show the property acquired by the State as required
		required to accurately show the property acquired by the state as required
27		by RSA 230:32. All registry plans must meet the requirements of the Plat
27 28		by RSA 230:32. All registry plans must meet the requirements of the Plat Law RSA 478:1a in order to be recorded.
27 28 29		by RSA 230:32. All registry plans must meet the requirements of the Plat Law RSA 478:1a in order to be recorded. [RSA 478:1a requires the seal of a licensed land surveyor].

1	At times a complete property survey, plus a plan, is required to be made
-	by the Survey Section. These are to conform to current regulations as
2	ostablished by law, and the Code of Ethics and Standards as adopted by
3	established by law, and the Code of Ethics and Standards as adopted by
4	the New Hampshire Land Surveyors Association.
5	[The N.H.L.S.A. Code of Ethics and Standards was used as the base document
6	for the Surveyor's Board's adoption of Lan $100 - 500$].
7	• Dept. of Transportation, <i>Highway Design Manual</i> , Ch. 12, p. 1 states:
8	The 2010 Survey Manual (refer to the Highway Design Document
9	Library,
10	http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/documents
11	.htm) and revisions hereto adopted by the NHDOT outlines procedures to
12	be used by the Survey Section of the Bureau of Highway Design. The
13	designer should have a general knowledge of the contents to better
14	understand the practical work of field surveying.
15	
16	Q. Have you had experience with any of the above required governmental
17	agency required surveys?
17 18	agency required surveys?A Yes. I have personally prepared surveys or have had them prepared for clients for
17 18 19	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlands
17 18 19 20	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlandsapproval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquatic
17 18 19 20 21	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlandsapproval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquaticmitigation and DOT curb cut approvals for residential and commercial properties. I have
17 18 19 20 21 22	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlandsapproval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquaticmitigation and DOT curb cut approvals for residential and commercial properties. I havebeen involved in highway taking matters and am familiar with DOT highway r.o.w.
 17 18 19 20 21 22 23 	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlandsapproval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquaticmitigation and DOT curb cut approvals for residential and commercial properties. I havebeen involved in highway taking matters and am familiar with DOT highway r.o.w.plans.
 17 18 19 20 21 22 23 24 	agency required surveys? A Yes. I have personally prepared surveys or have had them prepared for clients for local planning board approval, state subdivision approval, DES subdivision wetlands approval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquatic mitigation and DOT curb cut approvals for residential and commercial properties. I have been involved in highway taking matters and am familiar with DOT highway r.o.w. plans.
 17 18 19 20 21 22 23 24 25 	 agency required surveys? A Yes. I have personally prepared surveys or have had them prepared for clients for local planning board approval, state subdivision approval, DES subdivision wetlands approval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquatic mitigation and DOT curb cut approvals for residential and commercial properties. I have been involved in highway taking matters and am familiar with DOT highway r.o.w. plans.
 17 18 19 20 21 22 23 24 25 26 	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlandsapproval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquaticmitigation and DOT curb cut approvals for residential and commercial properties. I havebeen involved in highway taking matters and am familiar with DOT highway r.o.w.plans.Q.Do the Plans as submitted meet the minimum requirements for the local andstate agency plan review?
 17 18 19 20 21 22 23 24 25 26 27 	 agency required surveys? A Yes. I have personally prepared surveys or have had them prepared for clients for local planning board approval, state subdivision approval, DES subdivision wetlands approval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquatic mitigation and DOT curb cut approvals for residential and commercial properties. I have been involved in highway taking matters and am familiar with DOT highway r.o.w. plans. Q. Do the Plans as submitted meet the minimum requirements for the local and state agency plan review? A. No. The Plans are substandard and insufficient to meet the minimum
 17 18 19 20 21 22 23 24 25 26 27 28 	 agency required surveys? A Yes. I have personally prepared surveys or have had them prepared for clients for local planning board approval, state subdivision approval, DES subdivision wetlands approval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquatic mitigation and DOT curb cut approvals for residential and commercial properties. I have been involved in highway taking matters and am familiar with DOT highway r.o.w. plans. Q. Do the Plans as submitted meet the minimum requirements for the local and state agency plan review? A. No. The Plans are substandard and insufficient to meet the minimum requirements for the local and state agency review. If the Plans were submitted to a local
 17 18 19 20 21 22 23 24 25 26 27 28 29 	agency required surveys?AYes. I have personally prepared surveys or have had them prepared for clients forlocal planning board approval, state subdivision approval, DES subdivision wetlandsapproval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquaticmitigation and DOT curb cut approvals for residential and commercial properties. I havebeen involved in highway taking matters and am familiar with DOT highway r.o.w.plans.Q.Do the Plans as submitted meet the minimum requirements for the local andstate agency plan review?A.No. The Plans are substandard and insufficient to meet the minimumrequirements for the local and state agency review. If the Plans were submitted to a localplanning board for review and approval under RSA 674:37 they would be rejected as not
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	 agency required surveys? A Yes. I have personally prepared surveys or have had them prepared for clients for local planning board approval, state subdivision approval, DES subdivision wetlands approval, LCHIP plan approvals, oil spill mediation, drink water protection, DES aquatic mitigation and DOT curb cut approvals for residential and commercial properties. I have been involved in highway taking matters and am familiar with DOT highway r.o.w. plans. Q. Do the Plans as submitted meet the minimum requirements for the local and state agency plan review? A. No. The Plans are substandard and insufficient to meet the minimum requirements for the local and state agency review. If the Plans were submitted to a local planning board for review and approval under RSA 674:37 they would be rejected as not providing a minimum of required information.

Q. You mentioned RSA 674:37. Which title in the N.H. RSA's this in and why is it important?

3 A. RSA 674:37 is in Title 64, Planning and Zoning. Title 64 contains a comprehensive process for local regulation and review of subdivision plans and commercial site plan 4 development. RSA 676:4, II, Board's Procedure on Plats, provides optional phased reviews that 5 include a "Preliminary Conceptual Consultation Phase" and a "Design Review Phase." Under 6 the Preliminary Conceptual Consultation Phase, the applicant may meet with the board in a 7 8 public meeting to discuss conceptual issues related to the project. The meeting is non-binding 9 and abutters are not notified. Under the Design Review Phase, also non-binding, the abutters are notified. Generally, the applicant will have a preliminary survey plan adequate to identify design 10 issues that will be addressed in the final, formal application process. 11

12

13 Q. Please explain the formal planning board application process.

14 A. RSA 676:4,I(b) states that the "planning board shall specify by regulation what constitutes a completed application sufficient to invoke jurisdiction to obtain approval." The 15 16 statute also requires that "[t]he applicant shall also include the name and business address of 17 every engineer, architect, land surveyor, or soil scientist whose professional seal appears on any 18 plat submitted to the board." Id. Subdivision plans, condominium plans and boundary plans for site plan developments are defined by Lan 503.02(t) as "Standard Property Surveys" and as 19 20 discussed above require the seal of a licensed land surveyor. Also, under RSA 478:1-a,I, Recording of Plats, a plans must have the land surveyor's seal to be recorded. My experience is 21 22 that local planning board subdivision and site plan review regulations recognize these 23 requirements and include the requirement for a Standard Property Survey with the land 24 surveyor's seal.

25

Q. Why is the discussion of the planning board review and approval important for the SEC to understand in the NP review process?

A. The NP Plans as submitted would not meet the minimum requirements for local planning
board application acceptance and review. Because the NP Plans are limited in information and
of questionable accuracy, they would only be useful in the non-binding Preliminary Consultation
or Design Review phases of the planning board process.

2 Q. Are you aware that SEC accepted the NPT application as complete?

3 A. Yes. The SEC accepted the application as complete by Order dated December 18, 2015.

4 The plans submitted by NP and reviewed by the SEC for the application acceptance are entitled

5 "NPT Project Maps Preliminary Design October 2015." ("Preliminary Plans").

6 https://www.nhsec.nh.gov/projects/2015-06/application/Volume-IV/2015-06_2015-10-

7 <u>19_nptllc_psnh_app_1_project_maps_pgs_1-25.pdf</u>.

8 The Preliminary Plans use aerial photographs as the base plan with purported r.o.w. lines

9 overlaid. There is no indication that any land surveying was performed to determine the location

10 or width of the public r.o.w. The plans that are the subject of my testimony and review were

submitted to the SEC on December 16, 2016. Therefore, the SEC could not have reviewed the

12 Plans as part of the application completion review and acceptance process. Arguing that the NP

13 Plans are legally sufficient because the SEC accepted the original application would be an

14 attempt at an end run of the land surveying statutes and rules, and the SEC review process.

15

16 Q. You indicated above that the Plans are of questionable accuracy. Please explain.

17 A. In response to a request of the Applicant at a technical review session, I performed a 18 detailed page by page review of the Plans, specifically reviewing the mapping of the boundaries 19 of the public r.o.w. The plans contain inconsistencies that are not typical of local road r.o.w. 20 survey plans. These inconsistencies include r.o.w. boundaries that suddenly jog without explanation; r.o.w. lines that go through buildings; evidence of walls and fences that are not held 21 22 without explanation; iron pins that are not held without explanation; and r.o.w. widths that vary within short distances without explanation. There are so many inconsistencies that I question 23 24 whether the representations made in Survey Note 5 accurately reflect the land surveying research 25 and field work actually performed.

26

27 Q. Please explain.

A. The following is a table of the inconsistencies located by station number.

As a preliminary matter, the Plans do not include a graphic scale and there are no dimensions

30 included for r.o.w. or the boundary monuments (as required under Surveyor's Board rule). There

31 are stationing locations that allow rough scaling of dimensions. ("Scaling" is a process where a

plan is drawn to a particular scale; the user can use an engineer's scale (ruler) to graphically 1 measure distances. Depending on the scale of the plan, the accuracy of the scaling can generally 2 3 be from one foot to five feet. Using modern printing technology, I was able to print the NP Plans at a 1"=30' scale that allows scaling accuracy of 1 to 2 feet. 4

"Stationing" (abbreviated "STA" or "Sta") is a highway or other linear construction 5 project (such as a sewer line or underground utility line) survey technique where the centerline of 6 the project is divided into equal lengths with each point progressively labeled with its distance 7 8 moving away from the starting point. In the case of the NP Plans the stations are set at 100' 9 intervals and labeled "XX+XX." As an example, Station 86+00 is 8,600 feet from the beginning of the project. The + sign marks the point on the plan where the actual station is located. 10 Interim stationing can be scaled from the plan and is represented by 86+46; i.e. 8,645 feet from 11 12 the beginning of the project. Because the stationing is always increasing, the surveyor identifies items that are offset right or left from the station line as being "right" or "R" or "left" or "L" 13 while always looking "up" the line. For example, on the NP Plans on sheet number NRTHC109, 14 there is an iron pipe at Sta. 83+90L that is "not held." See table below for more examples. 15 16 As an additional preliminary matter; the stationing on a highway design drawing is

generally centered on the centerline of the r.o.w. or the linear project to be constructed. If the 17 18 stationing is not in the centerline for a particular reason, that information is clearly stated on the plan. In the case of the NP Plans the stationing appears to be "floating" somewhere near, but not 19 20 on the centerline of the existing traveled way. The "traveled way" is the actual traveled road surface, which may or may not be centered in the r.o.w. A traveled way could be shifted to 21 22 allow room in the r.o.w. for associated structures such as drainage swales. The issue with "floating" stationing is that it is very difficult or impossible to use the station position as a 23 24 control point for boundary determination and construction layout, which causes confusion during the construction process. 25

26

The following are the results of my page by page analysis of the NP Plans:

- c.l. = centerline27
- r.o.w. = right of way28
- 29 IP = iron pipe

Approximate	Item	Scaled width of r.o.w.
Station		

47+00	Intersection NH Rte.		
	145 and Old County		
	Road		
50+00	Old County Road		66'
64+00			66'
65+25 R	Cemetery	IP's shown – no further	62'
		evidence	
65 AAT	T 1 0 1	of limits of cemetery	5.0
65+44 L	Jog in left r.o.w. line	Traveled way not in center line	54'
		(C.I.) OI F.O.W. (F.O.W.).	
68 + 00		1.0.w. becomes narrower.	55'
08 ± 00 71 ± 00	Pood ourwas right	traveled way shifts to right side	55,
71+00 = 73+00	r o w lines are	of r o w	55
73+00	straight cord lines	011.0.w.	
74+00	straight cord mics		57'
77+50 L	At $2 - 2$ " IP held	Traveled way not in c.l. of	61'
	r.o.w. becomes wider	r.o.w.	
		r.o.w. lines diverge to a wider	
		width	
80+10 L	Grandview Dr. not		66'
	centered in		
	intersecting r.o.w.		
	lines		
80+40 L	2" IP not held	No explanation	66'
		IP scales at 25° off c.l.	
90 - 75 I	n o vy line intensecto	no evid. supporting width	(6)
80+75 L	r.o.w. line intersects	r.o.w. line not centered on road	00
82+00 I	fance line not held	fance scales 25' off all more or	66'
82+00 L	Tence fille not field	less	00
83+90 I	IP not held	IP scales 25' off c 1 more or	66'
0519012	II not netd	less	00
91+00		no evid. supporting width	70'
95+00		no evid. supporting width	64'
101+25 L	capped IP held		70'
	LLS 724		
104+00		no evid. supporting width	69'
104+25 R	IP held	right side of r.o.w. jogs in 7' at	68' before jog
		right angle	61' after jog
105+85 L	capped IP held		47'
	LLS 724		
108+00		no evid. supporting width	46'
110+00			56'

110+70 L	capped IP held		53'
112 50	LLS /24	· · · · · · · · · · · · · · · · · · ·	51
112+50		no evid. supporting width	51'
113+90R	capped IP not held		53'
114+65R	IP Not held		53'
115+00L	left side r.o.w. start diverge left		52'
117+00		no evid. supporting width	60'
119+00		no evid. supporting width	55'
120+90L	2" IP not held		57'
121+85R	capped IP not held		57'
127+30			58'
127+30R	capped IP not held		60'
128+00			54'
128+50			58'
134+70L	Jog in left r.o.w. line	r.o.w. becomes narrower.	62'
134+80	Jog in left r.o.w. line	r.o.w. becomes narrower.	49'
136+00			50'
138+80R	1" IP held		48'
140+18L	1" IP not held	at obtuse angle in r.o.w. line of Creampoke Rd. No explanation	48'
143+50R	Creampoke Rd. r.o.w. not centered on road		64'
146+95L	Begin jog in left r.o.w. line	r.o.w. becomes narrower.	63'
147+00	End jog in left r.o.w. line	r.o.w. becomes narrower. No explanation	50'
149+50 L	c.l. traveled way 12' from left r.o.w. line	traveled way not centered in r.o.w.	50'
150+50L	fence on left not held fence continues to 162+00 L		50'
150+50R	stone wall on right not held wall continues to 152+00 R	distance between fence and wall = 33' (2 rods)	50'
152+00R	stone wall ends	distance between stone wall (R) and fence $(L) = 25$ '	50'

157+45	IP held	fence at L not held	50'
R		distance between IP	
		and fence $= 42'$	
157+45 R	begin fence not held	distance between fences varies	50'
	fence R runs to 1+77		
	R		
161+50 L -	L traveled way line at		
172+00 L	edge r.o.w.		
163+50L	traveled way outside	fence L	
	of r.o.w. lines		
163+50R	fence not held	fence 18' from c.l. traveled way	50'
167+00R	fence not held	fence 16' from c.l. traveled way	50'
169+50L	stone wall not held		50'
169+50R	fence not held	distance between stone wall and fence $= 42$ '	
174+05 L	r.o.w. jogs wider at		48' at start jog
	right angle		55' at end jog
174+05 R	fence not held	fence = 16' from c.l. traveled	
		way	
176+00 L	stone wall not held		55'
	wall runs to 182+20 L		
194+30 -	r.o.w. shifts left		56'
195+80			
196+60 R	IP not held		56'
201+30R	IP not held (near		57'
	r.o.w. line)		
203+60R	stone wall not held		57'
	wall runs to 205+80 R		
207+70R	IP not held		57'
210+20R	IP not held		57'
219+85 R	IP not held		57'
227+60R	IP held		57'
	capped LLS 905		
228+10R	IP held		57'
	capped LLS 905		
230+70R	IP held		57'
231+12L	IP held		57'
241+00	intersection Old		
	County Road with		
	Bear Rock Rd.		
241+25R	IP held		at intersection
242+00	Bear Rock Road		50'
244+45L	IP not held		50'
248+55L	IP near but not on		50'
	r.o.w. line		

251+35R	IP held		50'
257+00R	IP held		50'
259+40L	traveled way shifted	c.l. traveled way 15' from	50'
	to left side r.o.w.	r.o.w.	
264+90L	IP not held	50'	50'
265+00-	traveled way shifted	r.o.w. centered on UGTL –	50'
267+00 L	to left side r.o.w.	UGTL not centered in r.o.w.	
268+90L	r.o.w. jogs at right	jog is 7' to left	50' before and after
	angle to left.		jog.
	IP near but not on		
	r.o.w. line		
268+90R	r.o.w. jogs at right	jog is 7' to left	50' before and after
	angle to left.		jog.
	IP near but not on		
	r.o.w. line		
275+00			50'
288+00R	traveled way shifted	r.o.w. right to c.l. traveled way	50'
	to right side of r.o.w.	20'	
292+80L	traveled way shifted	r.o.w. centered on UGTL not	50'
	to left side of r.o.w.	c.l. traveled way	
312+90	r.o.w. not parallel		55'
320+18L	IP held		54'
325+00	traveled way shifted	17' from left r.o.w. to c.l.	50'
	left in r.o.w.	traveled way	
336+00	traveled way shifted	20' from right r.o.w. to c.l.	50'
	right in r.o.w.	traveled way	
367+75R	capped IP held for		50'
	r.o.w line but not for		
	intersecting boundary		
	line		
369+35L	IP held		48'
369+75 -	building 4' +- in		
370+65 R	r.o.w.		401
369+75			48'
370+65			50'
371+35R	capped IP held for		50'
	r.o.w line but not for		
	intersecting boundary		
272.200			50)
372+20K	building 3" +- in		50
272 . 551	I.O.W.		502
312+35L	capped IP L		50
201 - 75D	LLS USS		50'
301+/3K	capped IP held		50,
392+30L			50
406+00	UGIL. exit r.o.w.		50'

2 Q. You stated earlier that the varying width of the r.o.w. is an issue. Please explain. 3 A. In my prior pre-filed testimony, I testified that the Applicant has failed to provide 4 evidence that the local roads are public highways. See Pre-Filed Testimony of Stephan T. Nix, December 30, 2016, p. 4, 112 – 29 (citing RSA 229"1). If the Applicant were to have properly 5 6 researched the legal status of the r.o.w., I would expect to see a note on the plan making reference to a formal layout or, if a formal layout was not found, the basis of the r.o.w. boundary 7 8 determination.

9

10

Q. Please explain what a formal layout is and what dedication and acceptance is.

RSA 231:1 – 33 defines the process for the selectmen of the town to lay out a highway. 11 A. 12 This process has been in place since the 1700's. See Alfano, Paul J., Creation and Termination of Highways in New Hampshire, 31 NHBJ 35 (March 1990). In the simplest of terms, when 13 14 there is a need for a public highway, the selectmen accept a petition describing the location of the highway. The selectmen hold a public hearing and determine if there is an "occasion" for the 15 16 layout. If they find that there is an occasion for the layout, there is a determination of damages to be paid (the process is an eminent domain proceeding). A "return" of the layout is drafted 17 18 describing the route to be followed. The return may or may not include the width being laid out. 19 The return is then filed with the Town Clerk in the town where the road is located.

20 Therefore, the town clerk's records are the primary source for the layout records. There is a secondary source of town records located at the State Archives in Concord. These are 21 22 known as the Oscar Jewell collection and cover the period from the early 1700's through the 23 1930's. As part of the WPA federal funding was used for engineers from the N.H. Highway 24 Department under the direction of Oscar Jewell, to transcribe the original town records for each 25 town. These transcribed documents are available at the State Archives. (It should be noted that because these documents were transcribed by hand, and are a secondary source, the user must be 26 careful to verify the content. The collection is also not guaranteed to contain all of the files from 27 a particular town). The review of both the Oscar Jewell collection and the original town records 28 29 by a licensed land surveyor performing a road survey is common practice.

The process of creating a public road through dedication and acceptance is a more
modern practice. This process entails the property owner "dedicating" the road to public use and

the town "accepting" the dedication (by dedicating, the owner waives claims to damages). The
dedication is generally depicted on a subdivision plan that is recorded in the registry of deeds.
The act of acceptance can be through a formal vote or proved through extrinsic evidence such as
the town accepting responsibility for maintenance.

5

Q. Are there more or less standard widths of public road in New Hampshire that you would expect to find when surveying a r.o.w.?

A. Yes. When reviewing a highway r.o.w. boundary plan such as the NP Plan, one would
expect to see a r.o.w. width of certain widths. Historically (in the 1700 and 1800's) the widths
were defined in terms of "rods." A rod is 16.5' in length. Ancient roads were generally laid out
at 2 rods (33') or 3 rods (49.5') with major highways at 4 rods (66'). More modern highways
(mid 1900's to 2010's) are laid out in even feet (20 -30' for minor roads in the early 1900's, 40'
for urban roads and 50' for major roads). Currently, the most common required width for a new
municipal road is 50'.

Therefore, if the proper research, field work and boundary determination were performed in preparing the NP Plans, I would expect to see more or less consistent widths as defined above. As the above table shows, the scaled widths range from 46' to 70 without explanation. In many places (generally on curves) the r.o.w. lines are not graphically parallel. This information raises the question of the validity of the representation by NP that the Plans accurately depict the public r.o.w.

21

22 Q. Are there other issues highlighted by the above table?

A. Yes. When the NP Plans are enlarged to inspect the graphical representation of the
monuments found (generally iron pipes or rods); there are numerous monuments that are not held
as the r.o.w. In many instances the monument may be near the r.o.w. but not on it. In other
cases the monuments are several feet from the r.o.w. line.

At Station 163+50L, the traveled way is shown outside the r.o.w. without explanation.
At Stations 369+75 to 370+65 R and 372+20R the plans depict buildings in the r.o.w.
without explanation.

30 These is an anomalies raise the question of the validity of the representation by NP that31 the Plans accurately depict the public r.o.w. lines

2

3

4

5

0.

A.

why not.

6 Site 301.03 (c)(6), a requires that the Applicant provide "evidence that the applicant has a current right, an option or other legal basis to acquire the right to construct, operate, and maintain the 7 facility on, over, or under the site." The rules go onto require specific information in the form of 8 9 documents showing fee ownership, ground lease, easement or another contractual right or 10 interest. The contractual interest can be in the form of a license, permit, easement, or other permission from a federal, state or local government agency. 11 12 **O**. Is the work necessary to properly research and survey the r.o.w. lines extremely 13 expensive? 14 A. No. Road research and mapping is performed as a matter of course throughout New 15 16 Hampshire. 17 18 **O**. If the surveyor is unable to find a layout document, what other options are there to show that a road is a public r.o.w. 19 20 A. RSA 229:1, defining highways, includes prescriptive roads; "prescriptive roads, being roads which have been used for public travel for 20 years prior to January 1, 1968." The land 21 22 surveyor's role in proving a prescriptive road includes mapping of physical evidence in the field 23 (the traveled way, walls, fences, etc.) and presenting this information to the client. 24 25 Q. What entity has the jurisdiction to determine that a road is public by prescription? 26 A. Only the superior court as discussed in Gordon v. Town of Rye, 162 N.H. 144 (2010). 27 28 Do any of the following have authority to determine that a road is public by **O**. 29 prescription?

You mentioned that the road layouts for town roads are in the town records and the

No. The burden to show that the UGTL will be within a public r.o.w. is on the Applicant.

State Archives. Did you look for the layouts for the roads at issue in this matter? If not,

- A licensed land surveyor;
- The selectmen of a town;

1	• NH DOT;
2	• The SEC;
3	• The Applicant (NP).
4	
5	A. No. Under the holding in <i>Gordon</i> , if there is not an undisputed layout for a public
6	highway, the only entity that has jurisdiction to find a public highway by prescription is the
7	superior court.
8	
9	Q. As of the date of this pre-filed testimony are you aware that the Applicant (NP) has
10	provided the SEC with any of the following?
11	• Layouts for public highways;
12	• Evidence of dedication and acceptance of the public highways;
13	• A superior court order determining that a highway is public by prescription:
14	• A Standard Property Survey making reference to any of the above item.
15	A. Not to my knowledge.
16	
17	Q. Does the SEC have jurisdiction to determine if the r.o.w. lines on the Plans are
18	accurate?
19	A. No. Because the r.o.w. lines depict the limits of real property, only the superior court has
20	jurisdiction. See Gordon v. Town of Rye, 162 N.H. 144 (2010), the Supreme Court found:
21	``[t]he legislature has specifically provided that declaratory judgment actions
22	can be brought in superior court by parties faced with adverse claims to an
23	interest in real property." Radkay v. Confalone, 133 N.H. 294, 297, (1990); see
24	RSA 491:22, I (2010) (``any person claiming a present legal or equitable right
25	or title may maintain a petition [in the superior court] against any person
26	claiming adversely to such right or title to determine the question as between
27	the parties").
28	Id. (citations, brackets and parenthesis in original)
29	
30	Q. Does NHDOT have the authority to determine whether a road is a public highway
31	and the location of the r.o.w. lines?

- 1 A. No. Under *Gordon*, only the superior court has the jurisdiction.
- 2

Q. If the SEC approves the Project using the Plans as they are, will there be an impact on the public?

A. Yes. If the plans are approved as they are, the burden to prove (1) whether or not the
roads are in fact public highways; and (2) the horizontal location of the road r.o.w. will shift to
each individual land owner. If the SEC approves these plans as is, each abutting land owner will
then bear the burden and cost to survey their property to determine the limits of the r.o.w. and to
bring Declaratory Judgment actions regarding real property pursuant to RSA 491:22, I and Quiet
Title actions pursuant to RSA 498-5-a in superior court.

11